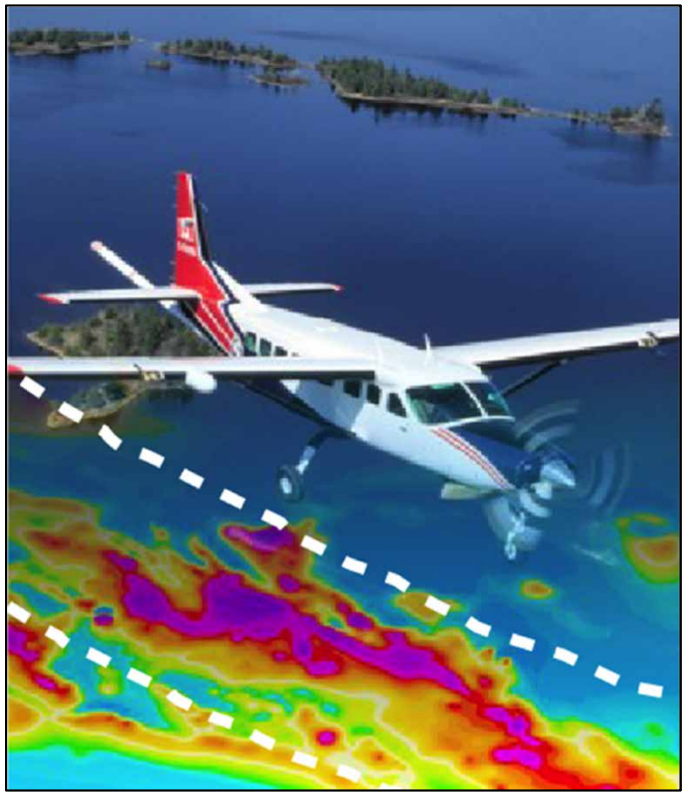
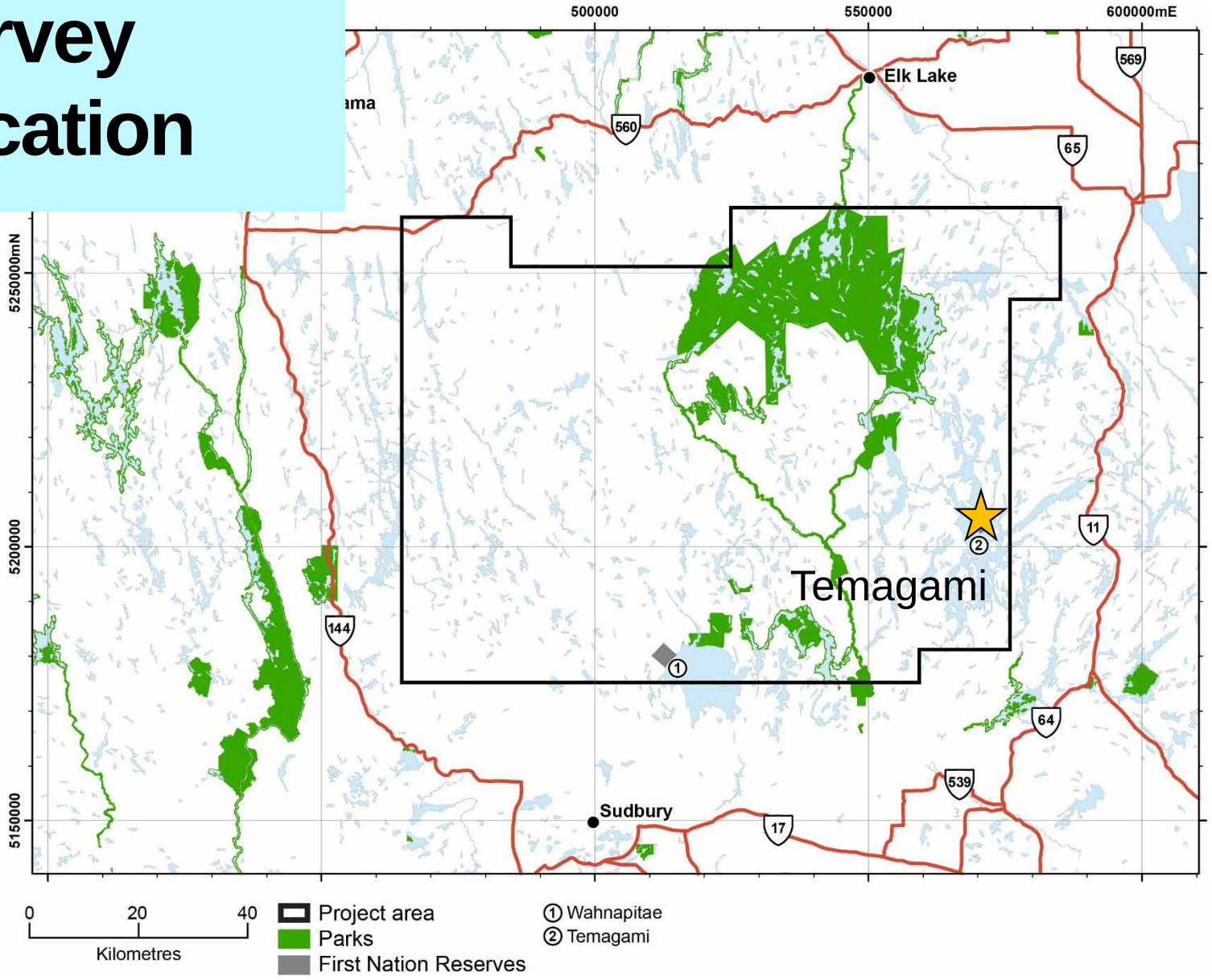
Sturgeon River Airborne Geophysical Survey



Survey Purpose

- **collect high-resolution geophysical data**
- **fill large gap in geophysical coverage**
- **assist with geological mapping and compilation in the region**
- **gather geoscience information suitable for land-use planning**
- **obtain data that can be used for mineral exploration**

Survey Location



Sturgeon River geophysical survey summary information

Survey type: magnetic gradiometer

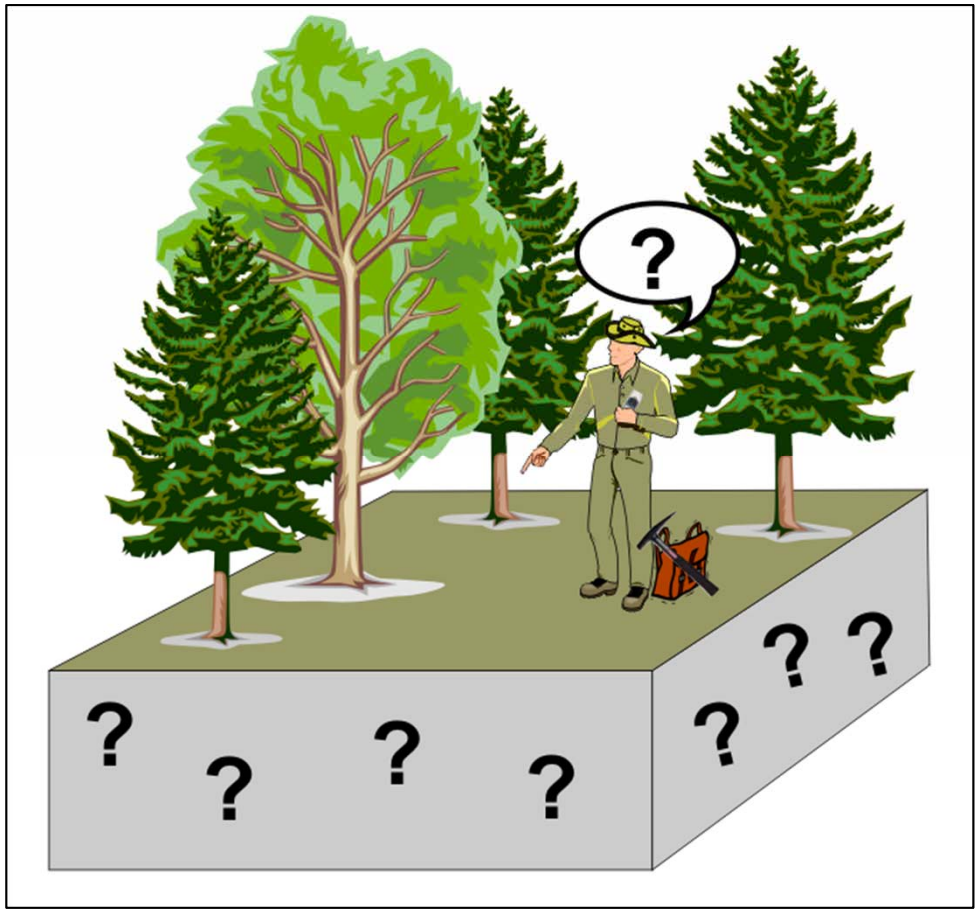
Survey area: 9,231 sq. km

Distance to be flown: 51,000 line-km

Survey expected to begin: Mid November 2019

Survey expected to be completed: February 2020

Survey results published: Late summer 2020



In northern Ontario, most bedrock is covered by overburden (sand, gravel, dirt), water, muskeg and other vegetation.

Geologists are not able to see the rocks and must use geophysics to “see” into the Earth.

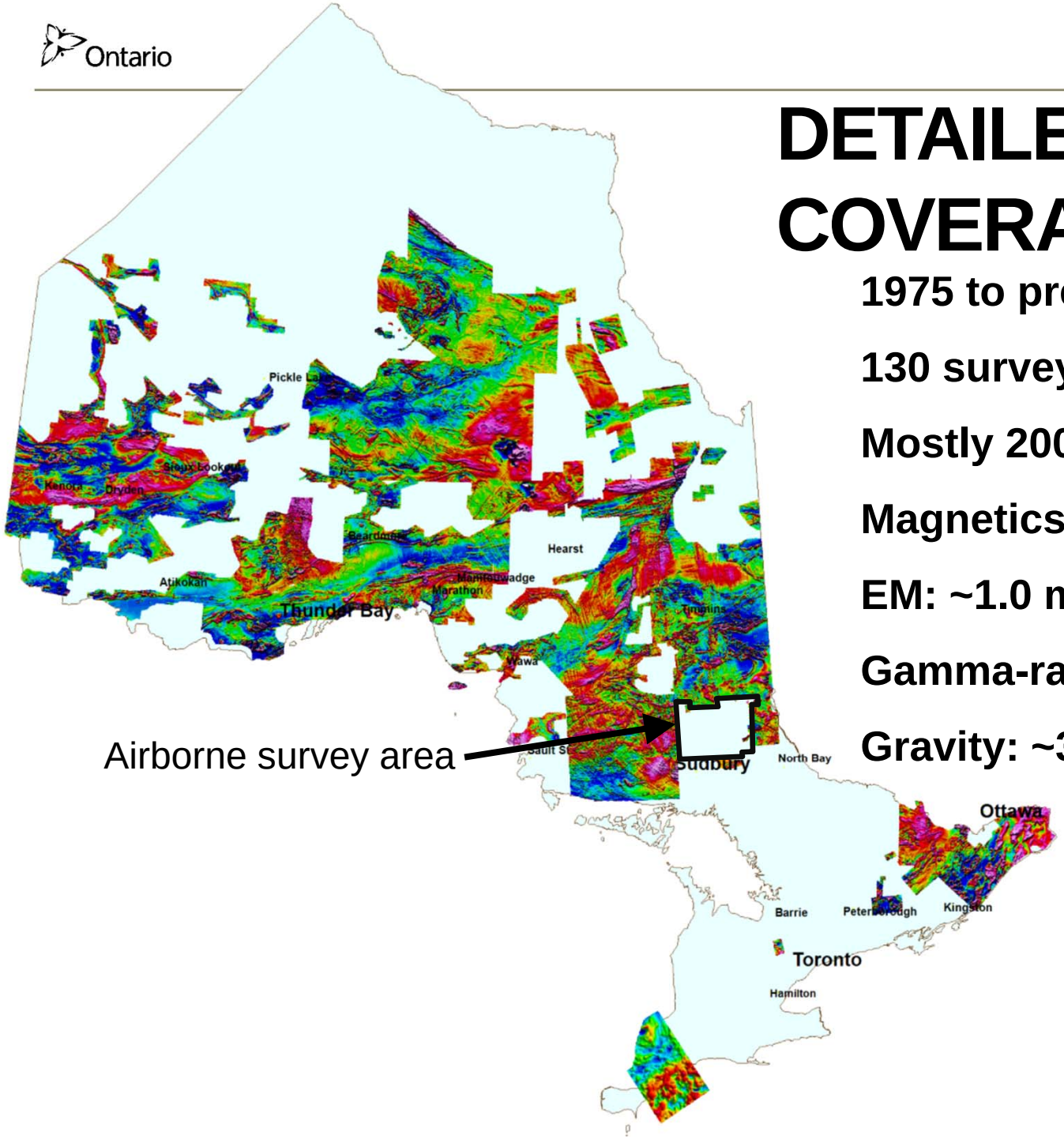
Geophysics is used to help understand what rocks and minerals lie below the surface.

Geophysics helps to “fill in the picture” between pieces of exposed bedrock

Ontario

MINISTRY OF
ENERGY,
NORTHERN
DEVELOPMENT
AND MINES

DETAILED SURVEY COVERAGE



Airborne survey area

1975 to present

130 surveys

Mostly 200m line spacing

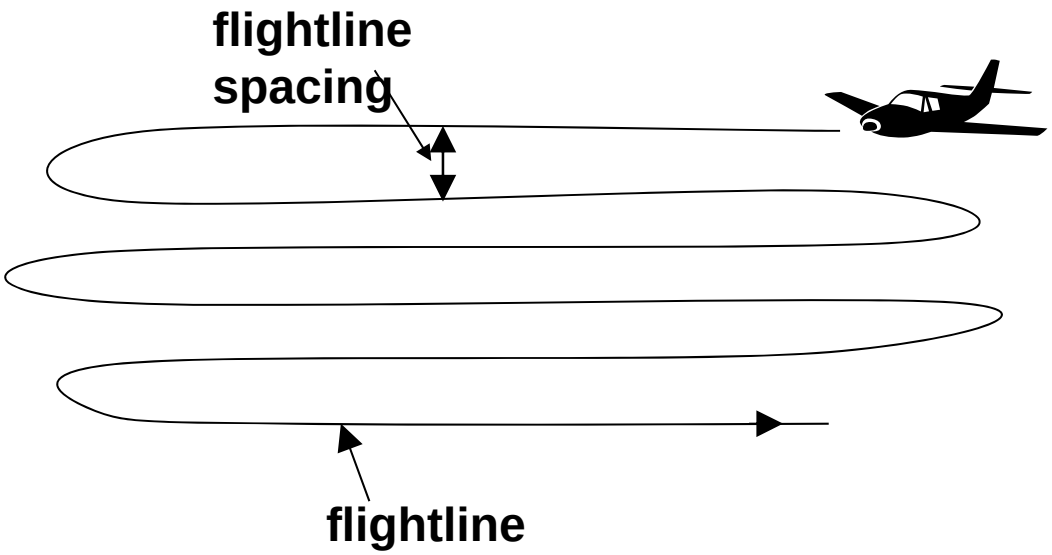
Magnetics: ~2.5 million line-km

EM: ~1.0 million line-km

Gamma-ray: ~700,000 line-km

Gravity: ~37,500 line-km

Aiborne survey layout

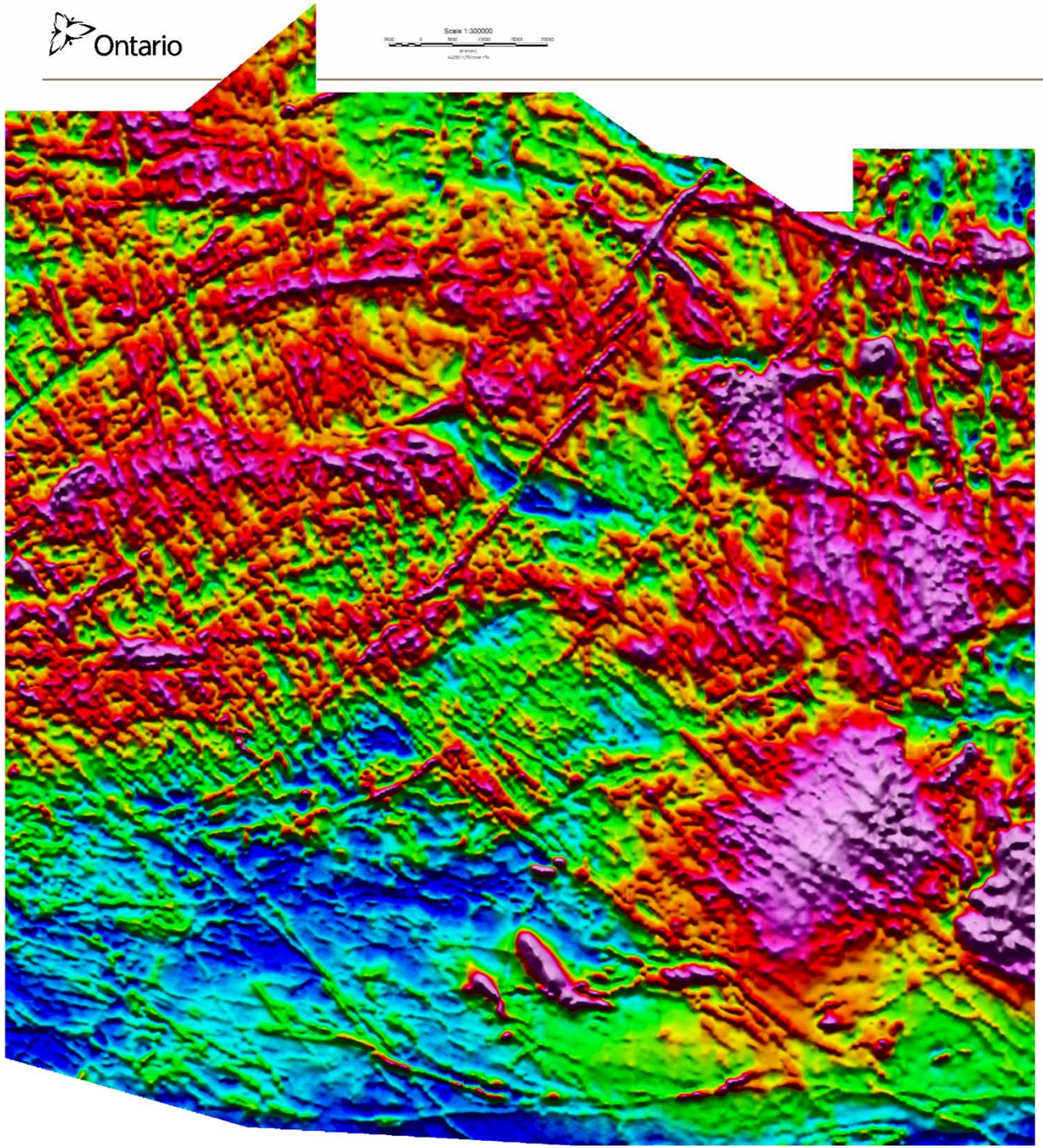


200 metre flight line spacing

Flight height: approximately 100 metres above ground

51,000 line-kilometres of airborne geophysical data will be collected

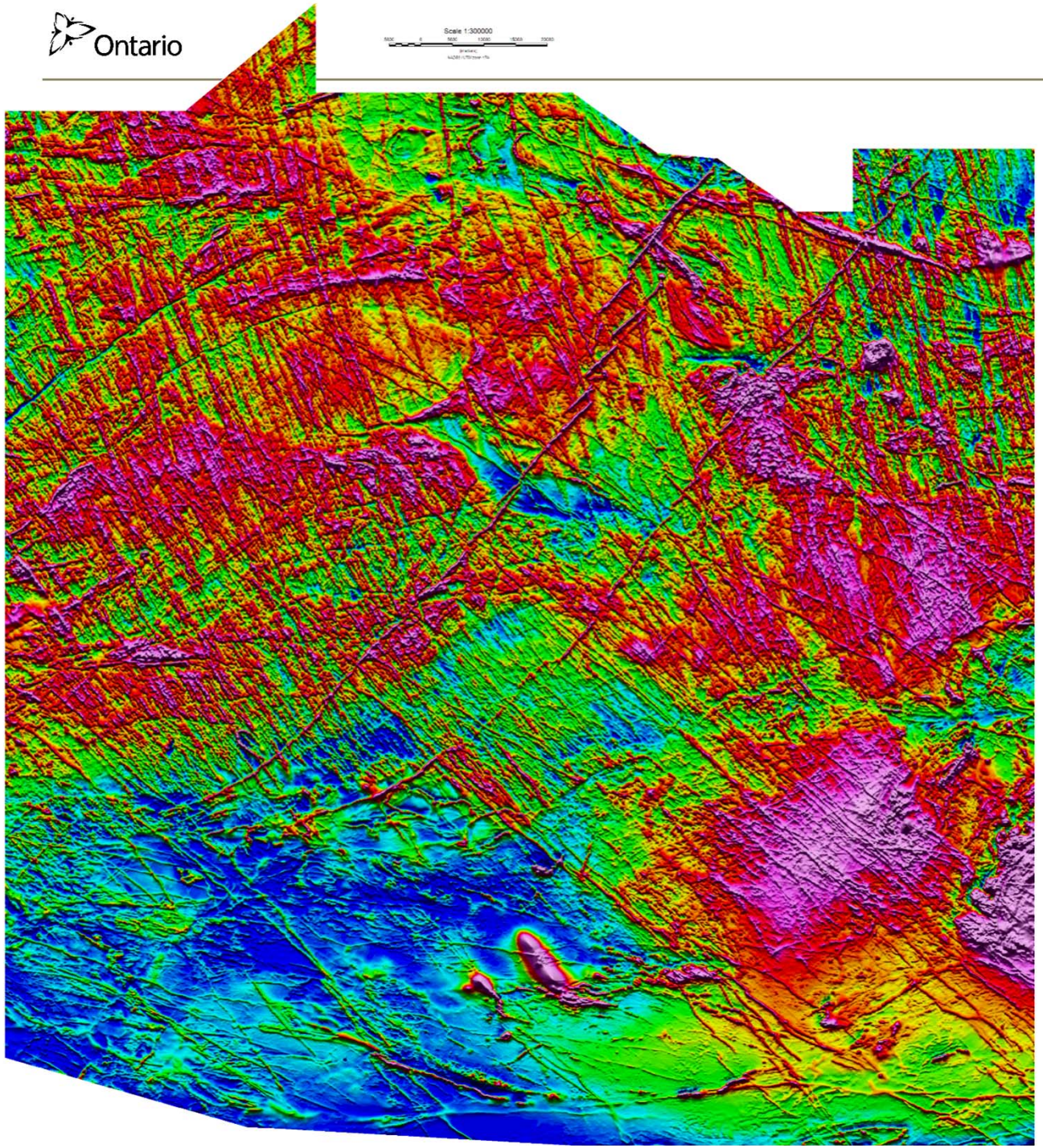
Lines flown north-south with east-west tie-lines



“Before”

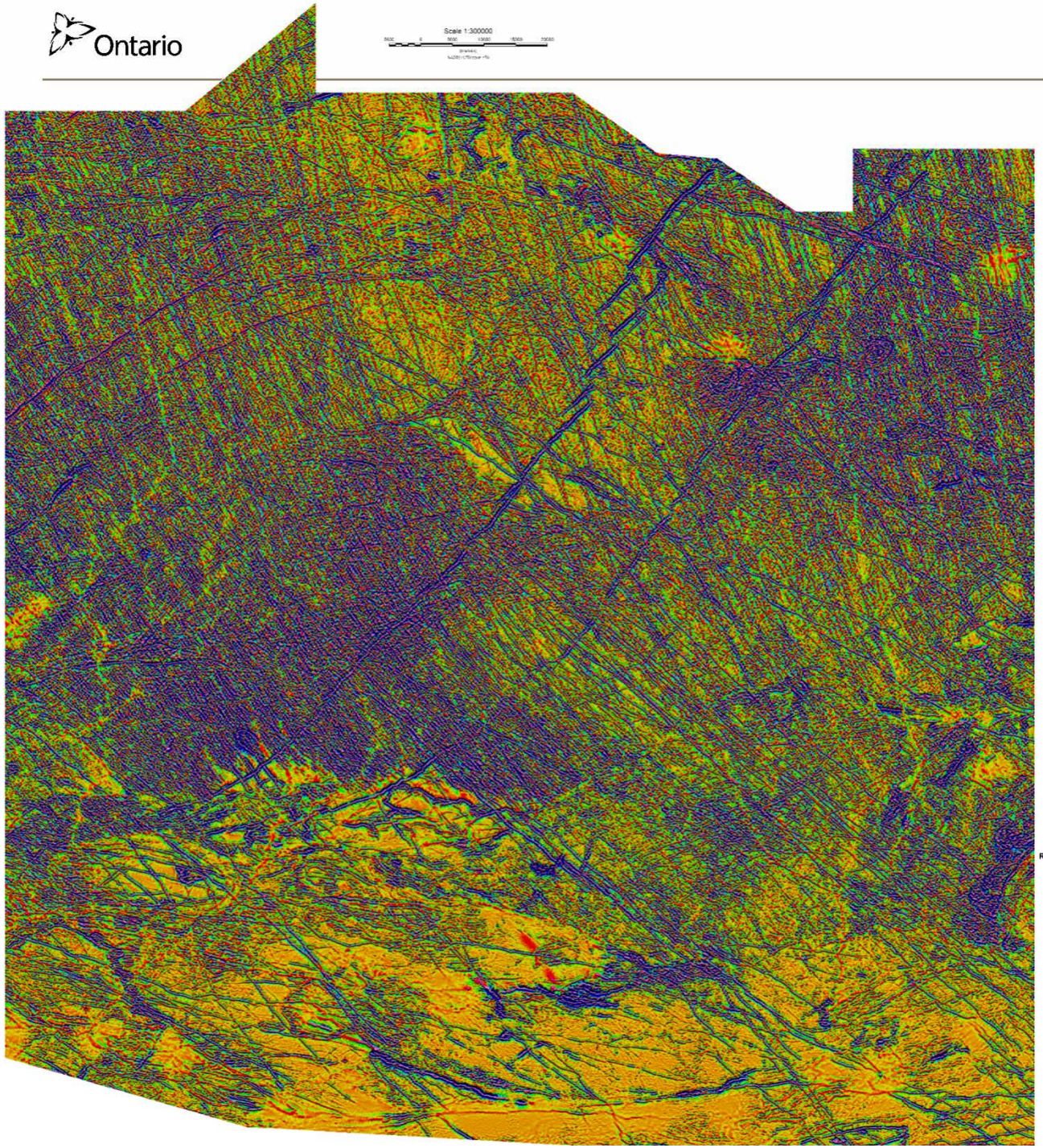
Old, coarse data

1960s vintage



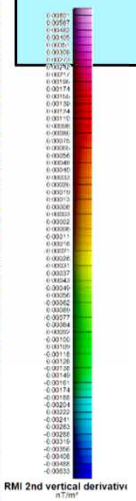
“After”

New, detailed data

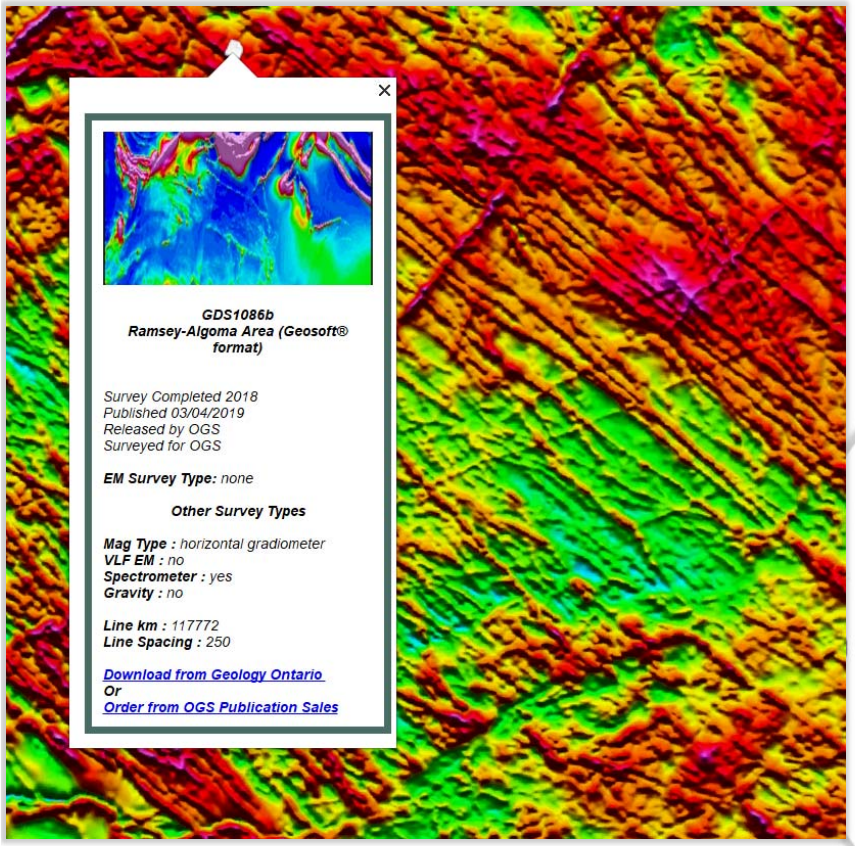


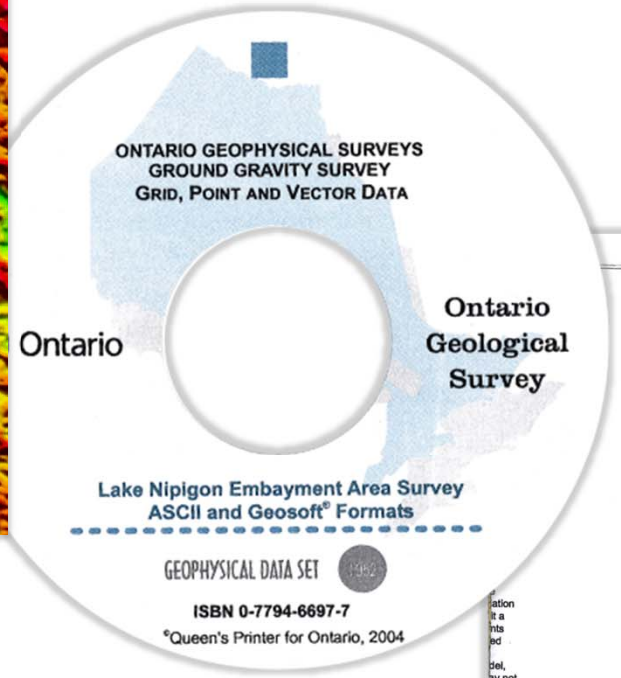
“After”

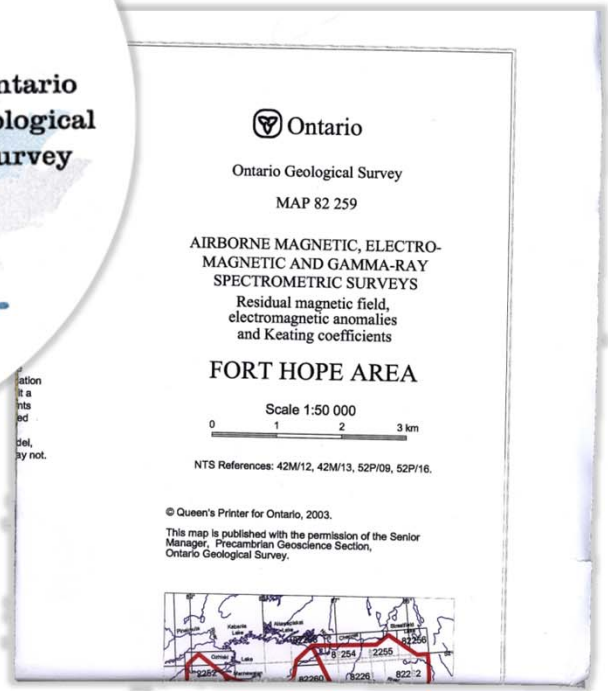
New, data processed for more detail



FINAL PRODUCTS







Online, DVDs and Paper Maps